

IN THE UNITED STATES COURT OF FEDERAL CLAIMS
No. 17-843C
(Filed Under Seal: April 6, 2020)
FOR PUBLICATION FILED: April 21, 2020¹

ACME WORLDWIDE ENTERPRISES, INC.,	*
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Plaintiff,	*
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v.	*
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THE UNITED STATES,	*
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Defendant,	*
	*
and	*
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INDUSTRIAL SMOKE & MIRRORS,	*
	*
	*
Intervenor-Defendant.	*
	*

OPINION AND ORDER

DAMICH, Senior Judge.

The Court issued its Claim Construction Opinion and Order on December 16, 2019 (ECF No. 52). The Defendants² filed a Motion for Reconsideration (ECF No. 58) on January 17, 2020. The Court ordered Plaintiff to respond, which it did on January 30, 2020. The Defendants filed their Reply (ECF No. 61) on February 7, 2020, and the Plaintiff filed a Sur-Reply (ECF No. 63) on February 20, 2020.

In its Claim Construction Order, the Court ordered the parties to file supplemental briefs regarding the legal effect of the inconsistency of the description of “gun active recoil unit,” found in claims 1 and 25, one the one hand, and in claim 14, on the other. Because of the order for supplemental briefing, the Court did not interpret the disputed term, “gun active recoil unit” in the Claim Construction Order.

¹ The parties were directed to file redactions by April 20, 2020. The parties agreed no redactions were necessary.

² The Motion for Reconsideration was filed by the United States and by Defendant-Intervenor, Industrial Smoke & Mirrors, Inc.

For the reasons set out below, the Court **DENIES** the Defendants' Motion for Reconsideration, because the Court does not modify its Claim Construction Opinion and Order but the Court does clarify it. In addition, the Court **CONSTRUES** "gun active recoil unit" differently in claims 1 and 25, on the one hand, and in claim 14, on the other, according to their plain meanings and does not hold them to be indefinite. Because of the clarification of the Claim Construction Order and the construction of "gun active recoil unit," the Claim Construction Opinion and Order of December 16, 2019 is incorporated into this Order by reference.

I. Introduction

In this Opinion and Order, the Court addresses three issues: (1) whether the claim terms "dynamically altering a frequency of recoils per second when the weapon simulator is in use" (claims 1, 14) and "to alter a frequency of recoils per second when the weapon simulator is in use" (claim 25) must exclude a simulator system capable of only a fixed rate of fire when in use; (2) the relation between simulated malfunctions and the Court's construction of these terms; and (3) the interpretation of "gun active recoil unit."

II. Fixed Rate of Fire or Recoil

A. The Defendants' Motion for Reconsideration

The Defendants' Motion for Reconsideration states:

The Government does not seek to revisit its proposed construction . . . and does not propose any new constructions. Instead, the Government simply urges the Court to clarify its construction to give full effect to the clear disavowal of claim scope undertaken by the applicants³ during examination through a revised construction, the appropriate scope of such disavowal informed by the Federal Circuit's recent opinion in *Techtronics*.⁴

ECF No. 58 at 6.

The Motion further states: "[T]he Court should clarify that the language of the '575 patent necessarily excludes, as a result of the applicants' claim disavowal, (1) weapon simulators that have only fixed rates of fire, like in Wolff, and (2) weapon simulators that have rates of fire that must be fixed during use but that can be tuned when not in use, like in Oishi."⁵ *Id.* at 1-2.

³ The named applicant, Randall S. Gurule, along with the other inventors (collectively "the applicants"), assigned their rights in the '575 patent to ACME on November 17, 2009.

⁴ The Court agrees with Plaintiff that *Techtronics* broke no new ground and is only marginally relevant; therefore, it will not be discussed.

⁵ Although the Defendants mention the Oishi reference in their Motion for Reconsideration, the Defendants' argument is aimed at the fixed rate of recoil issue not at the issue of various rates of recoil that can be varied only when the simulator is not in use, which

B. The Court's Claim Construction Order

With regard to Plaintiff's narrowing of claim scope due to prior art, the Court's Claim Construction Order concludes: "In sum, the Court finds that the applicants did not disclaim subject matter of a fixed rate of fire during the prosecution phase when the device also includes other rates of fire variable when the device is in use." *Id.* at 9. Further, the Order states: "Although a simulator capable of *only* a fixed rate of recoil would be unpatentable in view of Wolff, a simulator capable of a fixed rate of recoil *and* variable rates of recoil would not." *Id.* at 8 (emphasis in original).

The Order is consistent with the Defendants' observation in its Claim Construction Statement:

In view of the prosecution arguments limiting the meaning of a claim term in order to overcome the examiner's rejection of independent claims 1, 14 and 25 in view of Oishi, Hogan and Wolf, the claim terms "dynamically altering a frequency of recoils per second when the weapon simulator is in use" (claims 1, 14) and "to alter a frequency of recoils per second when the weapon simulator is in use" (Claim 25) must exclude a simulator system capable of *only* a fixed rate of fire when in use."

ECF No. 47 at 13 (emphasis added).

C. The Court's Claim Construction Order and the Defendants' Claim Construction Brief Compared

As the quotations above indicate, the Court and the Defendants are in agreement that the claims of the '575 patent cannot be interpreted to include a simulator that has only a fixed rate of fire.⁶ Furthermore, the Court's Claim Construction Order is consistent with what the Defendants aver in their Motion for Reconsideration as already quoted above: "[T]he language of the '575 patent necessarily excludes, as a result of the applicants' claim disavowal, (1) weapon simulators that have only fixed rates of fire, like in Wolff, and (2) weapon simulators that have rates of fire that must be fixed during use but that can be tuned when not in use, like in Oishi." ECF No. 58 at 2.

Oishi teaches: "Indeed, Oishi teaches a weapon simulator system that is "tunable" in that the recoil rate can be altered by physically changing a weight mechanism in the device when the system is not in use, but once the weight is set, the recoil rate is fixed." ECF. No. 52 at 8.

⁶ Although the Defendants did not argue this, perhaps they find the Order confusing because a caption reads: "The Applicants Did Not Disclaim Subject Matter Of A Fixed Rate Of Fire During The Prosecution Phase." ECF No. 52 at 7. As the explanation under the heading makes clear, however, the applicants did not disclaim a fixed rate of fire when the simulator is capable of other rates of fire. They did disclaim a simulator capable of only a fixed rate of fire. (In retrospect, the Court admits that the heading was unartfully worded.)

Although Defendants' did not pinpoint where they were confused by the Court's Claim Construction Order, the Court believes that the source of the confusion are statements in the Order that envision a simulator that has both a fixed rate of recoil and variable rates of recoil. For example: (1) "In sum, the Court finds that the applicants did not disclaim subject matter of a fixed rate of fire during the prosecution phase when the device also includes other rates of fire variable when the device is in use," ECF No. 52 at 9; and (2) "Although a simulator capable of *only* a fixed rate of recoil would be unpatentable in view of Wolff, a simulator capable of a fixed rate of recoil *and* variable rates of recoil would not." *Id.* at 8 (emphasis in original).

In drafting these sentences (and similar sentences in the Order) the Court focused on the fact that the simulator in the Wolff reference recoiled at a fixed rate of 10 Hz. The Court did not believe—and it does not now—that applicants' disavowed a simulator that was capable of such a fixed rate of recoil, as long as a simulator was capable of changing to other rates of recoil while the simulator was in use. In other words, whenever a frequency of recoil is set, it is "fixed." If the frequency is changed, then the new rate of fire is "fixed" at another rate, for the time being. Therefore, the simulator in the '575 patent is capable of both a fixed rate of fire and of changing to other fixed rates of fire while it is in use.

There is an alternative meaning of "fixed." A fixed rate of recoil may mean that there are no other rates of recoil of which the simulator is capable. The simulator is "fixed" on one rate of recoil. If a simulator is capable of more than one rate of recoil, then the simulator does not have a fixed rate of recoil. The rate of recoil is variable. In this meaning, it makes no sense to say that a simulator may have both a fixed rate of recoil and at the same time be capable of alternating between various rates of recoil.

So, in the first meaning of "fixed," the applicants' did not disclaim a simulator that has a constant rate of recoil as long as the simulator can change to another constant rate of recoil. In the second meaning of "fixed," the applicants' disavowed a simulator that can only recoil at one constant rate. This is the Court's understanding of the scope of the applicants' disavowal.

D. Review of the Court's Claim Construction

But even though the Court and the Defendants are seemingly in agreement with the scope of the disclaimer, Defendants seem to have a further problem—although it is not clearly expressed in their Motion for Reconsideration—namely, that the Court's adoption of the Plaintiff's claim construction is inconsistent with the scope of the disclaimer.

In their Claim Construction Brief, Defendants cite the applicants' disavowal of a simulator with only a fixed rate of fire as the reason why "between non-zero frequencies" is included in its proffered claim construction of the pertinent limitation in claims 1, 14 and 25: "It is for this reason that Defendants include the language 'between non-zero frequencies' [in] the construction of the claim terms. Including this language explains that the claim term does not

encompass the disclaimed subject matter of fixed rate fire.”⁷ ECF No. 47 at 13. Thus, “dynamically altering a frequency of recoils per second when the weapon simulator is in use” would be construed as “continuously altering a frequency of recoils per second between non-zero frequencies when the simulator is being operated.” The Defendants’ Claim Construction Brief does not explain how “between non-zero frequencies” is necessary to express (or better expresses) the disavowal of a simulator that has only a fixed rate of fire or recoil nor do its submissions regarding reconsideration. Unfortunately, oral argument also did not clarify Defendants’ position.

To begin: What is a “non-zero frequency”? The term implies that there is a “zero frequency,” which would presumably mean “no rate of fire (or recoil).” So, a zero frequency would be no rate of fire. In other words, the simulator would not be firing and therefore not recoiling. So a “non-zero frequency” is any frequency at which the simulator is firing or recoiling. But what does “between non-zero frequencies” mean? The Court supposes that the Defendants mean between the first firing rate and the last firing rate. The plain meaning of “altering a frequency of recoils per second” implies that the simulator is firing and that it can vary the rate of fire while it is firing. Therefore, “between non-zero frequencies” does not seem to add anything.⁸

Furthermore, how does “between non-zero frequencies” capture the disavowal of a simulator with only a fixed rate of fire while the plain meaning of “dynamically altering a frequency of recoils per second when the weapon simulator is in use” does not? A rate of recoil that is fixed has a frequency of recoil that does not change. Going from one rate of recoil to another rate of recoil is “altering a frequency of recoils.” The Court has held and the Government seemingly agrees that the patented simulator can have a fixed rate of fire as long as it has variable rates of fire as well—and that the rate of fire (or recoil) can be changed while the simulator is in use. Therefore, the plain meaning of the claim term, “dynamically altering a frequency of recoils per second when the weapon simulator is in use” encompasses a fixed rate of fire as one of the frequencies of fire, as long as the simulator described in the ‘575 patent includes other rates of fire and the ability to change the rates during use.

At this stage in the litigation, the Court has not examined closely the accused device. Perhaps the Defendants’ concern is that the plain meaning adopted by the Court would read on an accused device that is capable only of one fixed rate of fire. Drawing from the Defendants’ rather abstruse claim construction, the Court can imagine that Defendants believe that Plaintiff might argue that (for such an accused device) going from non-firing to firing at a fixed rate would be “altering a frequency of recoils.” Therefore, claims 1 and 25 would read on an accused device that has only a fixed rate of fire. The Court has not adopted the Defendants’ “between

⁷ This sentence is imprecise in that Defendants argue for a construction that excludes a simulator that only has a fixed rate of fire, in contrast to one that has various rates of fire. *See* ECF Nos. 47, 58.

⁸ The Court notes that the Defendants seem not to account for the ambiguity in the word, “between.” Logically, it can be said not to include the beginning point and the end point. Therefore, the better phrase would be “between zero frequencies.” For example, “visit me between August 2 and August 5” would mean that one should visit on August 3 or 4.

non-zero frequencies,” a phrase that implies that when the weapon is not firing that it is in a zero frequency mode. Therefore, going from non-firing to a fixed rate of fire is not “altering a frequency of recoils.”⁹ This conclusion is consistent with the Defendants’ statement in its Motion for Reconsideration that “[i]t is not ‘altering’ a frequency to go from fixed recoil to no recoil.”¹⁰ ECF No. 58 at 9.

III. Malfunctions

A second problem that the Defendants have with the Court’s Claim Construction Order is that the Court “has misapprehended the difference between alteration of the recoil rates of a weapon and the provision of simulated malfunctions.” *Id.* at 7. The Defendants’ Reconsideration Motion explains:

The Court stated that the ’575 patent relates to a weapon simulator that “allows an instructor to alter the recoil rates of a weapon, while in use, to simulate different malfunctions.” ECF 52 at 2. The Court’s statement seemingly conflates two separate and distinct aspects of the claimed invention, namely, (1) dynamic varying the recoil rates of a weapon simulator while in use and, separately, (2) simulation of malfunctions. This conflation is significant because “altering the recoil rates” of the weapon simulator relates primarily to the ability to use the simulator to simulate different weapons with different rates of fire, not simulated malfunctions. While one malfunction—“weapon sluggishness” (’575 patent, 6:36–38)—implicates both simulation of a malfunction and dynamic variation of recoil rates, as a slower-than-normal recoil rate is the manifestation of the malfunction. However, no other malfunction implicates the recoil rate.

Id.

The simulation of malfunctions is found in Claim 9, which depends from Claim 1, and in Claims 17 and 19, both of which depend from method Claim 14. Defendants are correct that the simulation of malfunctions in the dependent claims cannot be read into the independent claims. But the simulation of malfunctions is also included in the specification (’575 patent, 2:9–13, 6:30–44), and the claims are to be read in light of the specification. *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979 (Fed. Cir. 1995) (“Claims must be read in view of the specification, of which they are a part.”). Thus, the Court, in its Claim Construction Order, can

⁹ In its Claim Construction Order, the Court stated that “[l]ogically, if the host computer does not send recoil signals even when the trigger is depressed, the frequency of recoil would be zero.” This statement was made in the context of evaluating the Defendants’ claim construction, which included “non-zero frequencies.” In other words, the Court was making the point that if it could be said that a non-zero frequency is any rate of fire, then it could also be said that non-firing would be a frequency of zero. As the Court has explained, deeming non-firing to be zero frequency of fire does not add clarity to the meaning of the term.

¹⁰ Or vice-versa. If only the Defendants had made this point in their Claim Construction Brief rather than delving into the realm of zero and non-zero frequencies!

bolster its interpretation of “dynamically altering a frequency of recoils per second when the weapon simulator is in use” by reference to the simulation of malfunctions in the specification.

The malfunctions listed in the specification and in dependent claim 18 are: (1) runaway recoil, (2) weapon misfire, (3) weapon sluggishness, and (4) round cook-off. *See* '575 patent 3:12-13, 6:33-44. Defendants admit that weapon sluggishness implicates a rate of fire or recoil. The Defendants’ problem seems to be the use of the weapon misfire malfunction in conjunction with construction of “dynamically altering a frequency of recoils per second when the weapon simulator is in use.” In weapon misfire, the user squeezes the trigger but nothing happens. Therefore, because there is no frequency of recoils per second, weapon misfire cannot fit into the ambit of “dynamically altering a frequency of recoils per second.”

Regarding weapon misfire, the Court’s Claim Construction Order states: “Logically, if the host computer does not send recoil signals even when the trigger is depressed, the frequency of recoil would be zero.”¹¹ ECF No. 52 at 9. Consequently, inserting the phrase ‘between non-zero frequencies’ would exclude the ‘weapon misfire’ malfunction.” This conclusion, of course, is correct if no rate of fire is equivalent to “zero frequency.” And, as discussed above, the Defendants’ claim construction implies a “zero frequency” by using the phrase, “non-zero frequencies.” Furthermore, Defendants admit that a firing rate of zero is not absurd: “Yes, a machine gun that is not being fired can be said to have a firing ‘rate’ of zero. But that is not a ‘firing rate,’ *per se*; it is the absence of a firing rate.” ECF No. 61 at 4. The Court presumes that Defendants are saying that it is not incorrect to say that a gun has a firing rate of zero when it is not firing but that it is more precise to say that there is no firing rate in that case. Yet, Defendants argue that going from a fixed rate to zero cannot be “altering the recoil rate between two different rates.” It appears that Defendants are somewhat inconsistent. If “zero frequency” of fire may describe the state when the weapon is not firing, then going from zero frequency to any rate of fire is to alter the frequency of fire or recoil.¹² But, in the end, the Court doesn’t understand how these fine points have any impact on the Court’s claim construction of “dynamically altering a frequency of recoils per second when the weapon simulator is in use.” The Court has already re-explained above why its adoption of the plain meaning of this phrase excludes an apparatus or method that has only a fixed rate of fire or recoil or, expressed in another way, only one rate of fire or recoil.

IV. Inconsistency in Descriptions of “Gun Active Recoil Unit”

The Court ordered supplemental briefing to deal with the issue of the inconsistency between the description of “gun active recoil unit” in claims 1 and 14.¹³ ECF No. 52 at 16-17. Specifically, “gun active recoil unit” in claim 1 is described as comprising a slide tray, while in claim 14 the slide tray is “disposed on” the gun active recoil unit. In other words, the recoil unit in claim 1 includes a slide tray, while in claim 14 it does not. Thus, it appears that, as Defendants state in their Claim Construction Brief: “‘gun active recoil unit’ does not have a

¹¹ But *see*, n.8.

¹² The Court does not adopt this position. *See*, the Court’s discussion of a hypothetical accused device at pages 4-5.

¹³ The same language is used to describe “gun active recoil unit” in claim 25.

fixed, understood meaning.” ECF No. 47 at 24. Defendants thus address the issue of indefiniteness.¹⁴ It is an interpretive principle in claim construction that the same term should have a consistent meaning in all the claims. But 35 U.S.C. § 282(a) provides: “Each claim of a patent (whether in independent, dependent, or multiple dependent form) shall be presumed valid independently of the validity of other claims.” Therefore, the Court ordered supplemental briefing, requiring the parties to discuss indefiniteness, internal consistency, and claim independence. ECF No. 52 at 12, 17.

In its Supplemental Brief, Defendants focus on the principle of internal consistency and conclude that claim 14 (and the claims that depend from it) are invalid for indefiniteness. ECF No. 56 at 7. Defendants point out that the preferred embodiment includes language that comports with the language of claim 1, but not with claim 14. Defendants note that there is a “method embodiment” (which comports with the language of claim 14), but concludes that this is insufficient to overcome the principle of internal consistency. *Id.* at 5. The basis for this conclusion is not spelled out; it may be that the *preferred* embodiment has language that comports with claim 1, while the language that comports with claim 14 is found in simply, “[a]nother embodiment.” ’575 patent, 1:46, 64.

In its Supplemental Brief, the Plaintiff notes that a term may be defined in different ways in different claims, citing *Haemonetics v. Baxter Healthcare*, (Fed. Cir. 2010). Presumably, as justification for the inconsistency in claims 1 and 14, Plaintiff points out that claim 1 is an apparatus claim and claim 14 is a method claim, and furthermore, that one of the embodiments in the specification is explicitly referred to as a “method.”

The Court finds that the principle of internal consistency is overcome because claim 1 recites an apparatus claim, while claim 14 recites a method claim. This distinction is also found in the specification. In the “Summary of the Invention,” two embodiments are specified, one describes an apparatus, the other describes a method. The description of “gun active recoil unit” in the apparatus embodiment tracks the language of claim 1, while the description of that term in the method embodiment tracks that language in claim 14. Although the embodiment describing the apparatus is a preferred embodiment, the Court does not see—and Defendants do not explain—how this fact precludes a term from having two different definitions in two different claims.

The Court’s conclusion is based on *Haemonetics*. In that case, the Federal Circuit held that “centrifugal unit” had different definitions in claim 1 and in claim 16 and noted that this difference was supported by two embodiments included in the specification. The question was whether “centrifugal unit” meant just a vessel or a vessel with tubing. In claim one, the term referred to just the vessel, while in claim 16 “centrifugal unit” meant the vessel and the tubing. Significantly, the court stated: “[T]he description of two embodiments with each tracking the language of different independent claims most reasonably supports a construction in which “centrifugal unit” has one meaning in claim 1 and another in claim 16.” 607 F.3d at 782.

¹⁴ The Defendants argued, in their Claim Construction Brief, that this inconsistency called for a “means-plus-function” analysis. ECF No. 47 at 25-26. The Court rejected this argument in its Claim Construction Order. ECF No. 52 at 11-12.

For these reasons, the Court holds that the inconsistency between independent claims 1 (and 25), on the one hand, and claim 14, on the other, does not render claim 14 indefinite. The description of “gun active recoil unit” in claims 1 and 25 includes a slide tray; the description of this term in claim 14 does not. Therefore, the Court adopts the plain meaning of each definition as its claim construction.

V. Conclusion

For the reasons set forth above, the Court **DENIES** the Defendants’ Motion for Reconsideration. The Court, however, clarifies its Claim Construction Opinion and Order, ECF No. 52, and, in addition, **CONSTRUES** “gun active recoil unit” differently in claims 1 and 25, and in claim 14, according to their plain meanings, respectively. The Court further holds them not to be indefinite. The Claim Construction Opinion and Order of December 16, 2019, ECF No. 52, is therefore incorporated into this Order by reference.

Within 14 days, the parties shall file any redactions.

Within 30 days, the parties shall file a joint proposed litigation schedule.

IT IS SO ORDERED.

s/Edward J. Damich
EDWARD J. DAMICH
Senior Judge